

VOID

-99-

## SEQUENCE LISTING

## (1) GENERAL INFORMATION:

5 (I) APPLICANT: The Scripps Research Institute  
(ii) TITLE OF INVENTION: ENZYMATIC DNA MOLECULES  
(iii) NUMBER OF SEQUENCES: 101  
(iv) CORRESPONDENCE ADDRESS:  
10 (A) ADDRESSEE: The Scripps Research Institute  
(B) STREET: 10666 North Torrey Pines Road, TPC-8  
(C) CITY: La Jolla  
(D) STATE: California  
(E) COUNTRY: United States  
(F) ZIP: 92037

## 15 (v) COMPUTER READABLE FORM:

20 (A) MEDIUM TYPE: Floppy disk  
(B) COMPUTER: IBM PC compatible  
(C) OPERATING SYSTEM: PC-DOS/MS-DOS  
(D) SOFTWARE: PatentIn Release #1.0, Version #1.25

## 25 (vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: PCT/US95/  
(B) FILING DATE: 01-DEC-1995  
(C) CLASSIFICATION:

## 30 (vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: US 08/472,194  
(B) FILING DATE: 07-JUN-1995

## 35 (vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: US 08/349,023  
(B) FILING DATE: 02-DEC-1994

## (viii) ATTORNEY/AGENT INFORMATION:

35 (A) NAME: Logan, April C.  
(B) REGISTRATION NUMBER: 33,950  
(C) REFERENCE/DOCKET NUMBER: 463.2 PC

## 40 (ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: (619) 554-2937

-100-

(B) TELEFAX: (619) 554-6312

## (2) INFORMATION FOR SEQ ID NO:1:

5

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

10

(ii) MOLECULE TYPE: DNA (genomic)

15

CGGTAAGCTT GGCAC

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

20

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

25

(ii) MOLECULE TYPE: DNA (genomic)

30

(ix) FEATURE:

- (A) NAME/KEY: misc\_difference
- (B) LOCATION: replace(8, "")
- (D) OTHER INFORMATION: /standard\_name= "ADENOSINE RIBONUCLEOTIDE"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

TCACTATNAG GAAGAGATGG

20

5 (2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 38 base pairs
- (B) TYPE: nucleic acid
- 10 (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

ACACATCTCT GAAGTAGCGC CGCCGTATAG TGACGGCTA

38

20 (2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 80 base pairs
- (B) TYPE: nucleic acid
- 25 (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

GTGCCAAGCT TACCGNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN 60  
NNNNNGTCGC CATCTTTCC 80

35

## (2) INFORMATION FOR SEQ ID NO:5:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 28 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

10

## (ix) FEATURE:

- (A) NAME/KEY: misc\_feature
- (B) LOCATION: 28
- (D) OTHER INFORMATION: /standard\_name= "2'3' CYCLIC PHOSPHATE"

## (ix) FEATURE:

- (A) NAME/KEY: misc\_difference
- (B) LOCATION: replace(28, "")
- (D) OTHER INFORMATION: /standard\_name= "ADENOSINE RIBONUCLEOTIDE"

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

GGGACGAATT CTAATACGAC TCACTATN

28

## (2) INFORMATION FOR SEQ ID NO:6:

30

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 28 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

40

(ix) FEATURE:

-103-

- (A) NAME/KEY: misc\_difference
- (B) LOCATION: replace(28, "")
- (D) OTHER INFORMATION: /standard\_name= "ADENOSINE RIBONUCLEOTIDE"

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

GGGACGAATT CTAATACGAC TCACTATN

28

10 (2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 19 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

15

(ii) MOLECULE TYPE: DNA (genomic)

20 (ix) FEATURE:

- (A) NAME/KEY: misc\_difference
- (B) LOCATION: replace(8, "")
- (D) OTHER INFORMATION: /standard\_name= "ADENOSINE RIBONUCLEOTIDE"

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

TCACTATNGG AAGAGATGG

19

30 (2) INFORMATION FOR SEQ ID NO:8:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 8 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

40

(ix) FEATURE:

-104-

- (A) NAME/KEY: misc\_difference
- (B) LOCATION: replace(8, "")
- (D) OTHER INFORMATION: /standard\_name= "ADENOSINE NUCLEOTIDE"

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

TCACTATN

8

10 (2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 30 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

CCATCTCTTC CTATAGTGAG TCCGGCTGCA

30

25 (2) INFORMATION FOR SEQ ID NO:10:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 15 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

35

GTGCCAAGCT TACCG

15

(2) INFORMATION FOR SEQ ID NO:11:

40 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 43 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

10 CTGCAGAATT CTAATACGAC TCACTATAGG AAGAGATGGC GAC

43

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

15

- (A) LENGTH: 19 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

25

- (A) NAME/KEY: misc\_difference
- (B) LOCATION: replace(8, "")
- (D) OTHER INFORMATION: /standard\_name= "ADENOSINE  
RIBONUCLEOTIDE"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

30 TCACTATNGG AAGAGATGG

19

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

35

- (A) LENGTH: 43 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

## (ix) FEATURE:

- (A) NAME/KEY: misc\_difference
- (B) LOCATION: replace(28, "")
- (D) OTHER INFORMATION: /standard\_name= "ADENOSINE RIBONUCLEOTIDE"

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

GGGACGAATT CTAATACGAC TCACTATNGG AAGAGATGGC GAC

43

10

## (2) INFORMATION FOR SEQ ID NO:14:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

20

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

TCACACATCT CTGAAGTAGC GCCGCCGTAT GTGACGCTAG GGGTTCGCCT

50

25

## (2) INFORMATION FOR SEQ ID NO:15:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

35

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

GGGGGGACG CCGTAACAAG CTCTGAACTA GCGGTTGCGA TATAGTCGTA

50

## (2) INFORMATION FOR SEQ ID NO:16:

40

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

## (ii) MOLECULE TYPE: DNA (genomic)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

10

CGGGACTCCG TAGCCCATTG CTTTTTGCAG CGTCAACGAA TAGCGTATTA

50

## (2) INFORMATION FOR SEQ ID NO:17:

15

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20

## (ii) MOLECULE TYPE: DNA (genomic)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

CCACCATGTC TTCTCGAGCC GAACCGATAG TTACGTCATA CCTCCCGTAT

50

25

## (2) INFORMATION FOR SEQ ID NO:18:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

30

## (ii) MOLECULE TYPE: DNA (genomic)

35

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

GCCAGATTGC TGCTACCAGC GGTACGAAAT AGTGAAGTGT TCGTGACTAT

50

40

## (2) INFORMATION FOR SEQ ID NO:19:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

10

ATAGGCCATG CTTTGGCTAG CGGCACCGTA TAGTGTACCT GCCCTTATCG

50

(2) INFORMATION FOR SEQ ID NO:20:

15

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

25

TCTGCTCTCC TCTATTCTAG CAGTGCAGCG AAATATGTCG AATAGTCGGT

50

(2) INFORMATION FOR SEQ ID NO:21:

30

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

TTGCCAGCA TAGTCGGCAG ACGTGGTGT AGCGACACGA TAGGCCCGT

50

40

## (2) INFORMATION FOR SEQ ID NO:22:

5 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

TTGCTAGCTC GGCTGAAC TT CTGTAGCGCA ACCGAAAATAG TGAGGCTTGA

50

15 (2) INFORMATION FOR SEQ ID NO:23:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 107 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

25 (ix) FEATURE:

30 (A) NAME/KEY: misc\_difference  
(B) LOCATION: replace(28, "")  
(D) OTHER INFORMATION: /standard\_name= "ADENOSINE  
RIBONUCLEOTIDE"

30 /label= rA

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

GGGACGAATT CTAATACGAC TCACTATNGG AAGAGATGGC GACATCTCNN NNNNNNNNNN 60  
35 NNNNNNNNNN NNNNNNNNNN NNNNNNNNNGT GACGGTAAGC TTGGCAC 107

40 (2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:  
40 (A) LENGTH: 49 base pairs

-110-

- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

CCGGCCCACCT CTTTTACGAG CCTGTACGAA ATAGTGCTCT TGTTAGTAT

49

10

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 48 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

TCTCTTCAGC GATGCACGCT TGTTTTAATG TTGCACCCAT GTTAGTGA

48

25

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 46 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

TCTCATCAGC GATTGAACCA CTTGGTGGAC AGACCCATGT TAGTGA

46

(2) INFORMATION FOR SEQ ID NO:27:

40

-111-

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

10

CCGCCACCT CTTTACGAG CCTGTACGAA ATAGTGTCT TGTTAGTAT

49

(2) INFORMATION FOR SEQ ID NO:28:

15

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

25

CCGCCACCT CTTTACGAG CCTGTACGAA ATAGTGCTCT CGTTAGTAT

49

(2) INFORMATION FOR SEQ ID NO:29:

30

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 48 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

40

TCTCAGACTT AGTCCATCAC ACTCTGTGCA TATGCCTGCT TGATGTGA

48

## (2) INFORMATION FOR SEQ ID NO:30:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 42 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

CTCTCATCTG CTAGCACGCT CGAATAGTGT CAGTCGATGT GA

42

## 15 (2) INFORMATION FOR SEQ ID NO:31:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

TACAGCGATT CACCCTTGTT TAAGGGTTAC ACCCATGTTA

40

## (2) INFORMATION FOR SEQ ID NO:32:

30 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

40

ATCAGCGATT AACGCTTGTT TCAATGTTAC ACCCATGTTA

40

## (2) INFORMATION FOR SEQ ID NO:33:

5 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 40 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

15 TTCAGCGATT AACGCTTATT TTAGCGTTAC ACCCATGTTA

40

## (2) INFORMATION FOR SEQ ID NO:34:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 40 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

ATCAGCGATT CACCCTTGTT TTAAGGTTGC ACCCATGTTA

40

## 30 (2) INFORMATION FOR SEQ ID NO:35:

35 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 40 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

ATCAGCGATT CACCCTTGTGTT TAAGCGTTAC ACCCATGTTG

40

## 5 (2) INFORMATION FOR SEQ ID NO:36:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 base pairs
- (B) TYPE: nucleic acid
- 10 (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## 15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

ATCAGCGATT CACCCTTGTGTT TTAAGGTTAC ACCCATGTTA

40

## 20 (2) INFORMATION FOR SEQ ID NO:37:

- 20 (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 40 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - 25 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## 30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

ATCAGCGATT AACGCTTATT TTAGCGTTAC ACCCATGTTA

40

## (2) INFORMATION FOR SEQ ID NO:38:

- 35 (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 40 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

40

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

5 ATCAGCGATT AACGCTTGTT TTAGTGTGTC ACCCATGTTA 40

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

10 (A) LENGTH: 40 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

20 ATCAGCGATT AACGCTTATT TTAGCATTAC ACCCATGTTA 40

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 10 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

GCCATGCTTT 10

35 (2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

40 (A) LENGTH: 10 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single

-116-

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

CTCTATTTCT

10

(2) INFORMATION FOR SEQ ID NO:42:

10

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single

15

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

20

TATGTGACGC TA

12

(2) INFORMATION FOR SEQ ID NO:43:

25

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 10 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

35

TATAGTCGTA

10

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:

40 (A) LENGTH: 11 base pairs

-117-

- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

ATAGCGTATT A

11

10

(2) INFORMATION FOR SEQ ID NO:45:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 13 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

ATAGTTACGT CAT

13

25

(2) INFORMATION FOR SEQ ID NO:46:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 14 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

AATAGTGAAG TGTT

14

40

(2) INFORMATION FOR SEQ ID NO:47:

-118-

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 11 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

## (ii) MOLECULE TYPE: DNA (genomic)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

10

ATAGGCCCGG T

11

## (2) INFORMATION FOR SEQ ID NO:48:

15

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20

## (ii) MOLECULE TYPE: DNA (genomic)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

25

AATAGTGAGG CTTG

14

## (2) INFORMATION FOR SEQ ID NO:49:

30

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

35

## (ii) MOLECULE TYPE: RNA (genomic)

## (iii) HYPOTHETICAL: NO

## (iv) ANTI-SENSE: NO

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

40

GUAACUAGAG AU

12

## (2) INFORMATION FOR SEQ ID NO:50:

5 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 98 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO  
(ix) FEATURE:  
15 (A) NAME/KEY: misc\_feature  
(B) LOCATION: 7..18  
(D) OTHER INFORMATION: /note= "Position 7-18 is RNA; the  
remainder of the sequence is DNA."

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

GGAAAAGUAA CUAGAGAUGG AAGAGATGGC GACNNNNNN NNNNNNNNNN NNNNNNNNNN 60  
NNNNNNNNNN NNNNNNNNNN NNNCGGTAAAG CTTGGCAC 98

## 25 (2) INFORMATION FOR SEQ ID NO:51:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 99 base pairs  
(B) TYPE: nucleic acid  
30 (C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
35 (iv) ANTI-SENSE: NO  
(ix) FEATURE:  
(A) NAME/KEY: misc\_feature  
(B) LOCATION: 1..24  
(D) OTHER INFORMATION: /note= "Positions 1-24 is RNA; the  
40 remainder of the sequence is DNA."

-120-

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

GGAAAAAGUA ACUAGAGAUG GAAGAGATGG CGACNNNNNN NNNNNNNNNN NNNNNNNNNN 60  
NNNNNNNNNNN NNNNNNNNNN NNNNCGGTAA GCTTGGCAC 99

5

## (2) INFORMATION FOR SEQ ID NO:52:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

15 (iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

20 CCAATAGTGC TACTGTGTAT CTCAATGCTG GAAACACGGG TTATCTCCCG 50

## (2) INFORMATION FOR SEQ ID NO:53:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

35 CCAAAACAGT GGAGCATTAT ATCTACTCCA CAAAGACCAC TTTTCTCCCG 50

## (2) INFORMATION FOR SEQ ID NO:54:

40 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

ATCCGTACTA GCATGCAGAC AGTCTGTCTG CTTTTTCATT ACTCACTCCC

50

(2) INFORMATION FOR SEQ ID NO:55:

15

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 49 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

20

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

25

CAATTCACTGA TGACCAACTC TGTCAACACCG CGAACTTTA ACACTGGCA

49

(2) INFORMATION FOR SEQ ID NO:56:

30

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 50 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

35

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

CTTCCACCTT CCGAGCCGGA CGAAGTTACT TTTTATCACA CTACGTATTG

50

## (2) INFORMATION FOR SEQ ID NO:57:

5 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

## 15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

GGCAAGAGAT GGCATATATT CAGGTAAC TG TGGAGATACC CTGTCTGCCA

50

## (2) INFORMATION FOR SEQ ID NO:58:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

## 30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

CTAGACCATT CACGTTTACC AAGCTATGGT AAGAACTAGA ATCACGCGTA

50

## 35 (2) INFORMATION FOR SEQ ID NO:59:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
40 (C) STRANDEDNESS: single

## (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

5 (iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

CGTACACGTG GAAAAGCTAT AAGTCAAGTT CTCATCATGT ACCTGACCGC

50

10

## (2) INFORMATION FOR SEQ ID NO:60:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 base pairs

15

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

25

CAGTGATACA TGAGTGCACC GCTACGACTA AGTCTGTAAC TTATTCTACC

50

## (2) INFORMATION FOR SEQ ID NO:61:

30

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

ACCGAATTAA ACTACCGAAT AGTGTGGTTT CTATGCTTCT TCTTCCCTGA

50

## (2) INFORMATION FOR SEQ ID NO:62:

5 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

CAGGTAGATA TAATGCGTCA CCGTGCTTAC ACTCGTTTA TTAGTATGTC

50

## (2) INFORMATION FOR SEQ ID NO:63:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 49 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

CCCTACAAACA CCACTGGGCC CAATTAGATT AACGCTATTT TATAACTCG

49

## 35 (2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 49 base pairs  
(B) TYPE: nucleic acid  
40 (C) STRANDEDNESS: single

## (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

5 (iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

CCAAACGGTT ATAAGACTGA AAACTCAATC AATAGCCCAA TCCTCGCCC

49

10

## (2) INFORMATION FOR SEQ ID NO:65:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 base pairs

15

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

25

CACATGTATA CCTAAGAAAT TGGTCCCGTA GACGTCACAG ACTTACGCCA

50

## (2) INFORMATION FOR SEQ ID NO:66:

## (i) SEQUENCE CHARACTERISTICS:

30

(A) LENGTH: 50 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

40

CACAAACGAAA ACAATCTTCC TTGGCATACT GGGGAGAAAG TCTGTTGTCC

50

## (2) INFORMATION FOR SEQ ID NO:67:

## 5 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

10

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

CACACGAACA TGTCCATTAA ATGGCATTCC GTTTTTCGTT CTACATATGC

50

## 20 (2) INFORMATION FOR SEQ ID NO:68:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

25

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

30

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

CAGAACGAGG GTCTTGTAAG ACTACACCTC CTCAGTGACA ATAATCCTG

49

35

## (2) INFORMATION FOR SEQ ID NO:69:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 base pairs
- (B) TYPE: nucleic acid

40

-127-

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

5 (iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

10 CACTACAGCC TGATATATAT GAAGAACAGG CAACAAGCTT ATGCACTGG

49

(2) INFORMATION FOR SEQ ID NO:70:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

25 GGGTACATTGATTCTCT TATAAAGAGA ATATCGTACT CTTTTCCCCA

50

(2) INFORMATION FOR SEQ ID NO:71:

30 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 49 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear35 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

CCAAAGTACA TTCCAACCCC TTATACGTGA AACTTCCAGT AGTTTCCTA

49

## (2) INFORMATION FOR SEQ ID NO:72:

5 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

## 15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

CTTGAAGATC CTCATAAGAC GATTAAACAA TCCACTGGAT ATAATCCGGA

50

## 20 (2) INFORMATION FOR SEQ ID NO:73:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

## 30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

CGAATAGTGT CCATGATTAC ACCAATAACT GCCTGCCTAT CATGTTTATG

50

## 35 (2) INFORMATION FOR SEQ ID NO:74:

35 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single

## (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

5

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

10 CCAAGAGAGT ATCGGATACA CTTGGAACAT AGCTAACTCG AACTGTACCA

50

## (2) INFORMATION FOR SEQ ID NO:75:

## (i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 48 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

25

CCACTGATAA ATAGGTAACT GTCTCATATC TGCCAATCAT ATGCCGTA

48

## (2) INFORMATION FOR SEQ ID NO:76:

## 30 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

CCCAAATTAT AAACAATTAA ACACAAGCAA AAGGAGGTTC ATTGCTCCGC

50

## (2) INFORMATION FOR SEQ ID NO:77:

5 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

CAATAAACTG GTGCTAAACC TAATACCTTG TATCCAAGTT ATCCTCCCCC

50

## (2) INFORMATION FOR SEQ ID NO:78:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

CCGAATGACA TCCGTAGTGG AACCTTGCTT TTGACACTAA GAAGCTACAC

50

## 35 (2) INFORMATION FOR SEQ ID NO:79:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single

## (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

5 (iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

CCATAACAAA TACCATAGTA AAGATCTGCA TTATATTATA TCGGTCCACC

50

10

(2) INFORMATION FOR SEQ ID NO:80:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

25

CAGAACAAAG ATCAGTAGCT AAACATATGG TACAAACATA CCATCTCGCA

50

(2) INFORMATION FOR SEQ ID NO:81:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

CCTTTAGTTA GGCTAGCTAC AACGATTTT CCCTGCTTGG CAACGACAC

49

## (2) INFORMATION FOR SEQ ID NO:82:

5 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

CTCCCTACGT TACACCAGCG GTACGAATT TCCACGAGAG GTAATCCGCA

50

## (2) INFORMATION FOR SEQ ID NO:83:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 36 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

CGGCACCTCT AGTTAGACAC TCCGGAATT TTCCCC

36

## 35 (2) INFORMATION FOR SEQ ID NO:84:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 49 base pairs  
(B) TYPE: nucleic acid  
40 (C) STRANDEDNESS: single

5 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

5 (iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

10 CGGCACCTCT AGTTAGACAC TCCGGAATTT TAGCCTACCA TAGTCCGGT

49

10 (2) INFORMATION FOR SEQ ID NO:85:

15 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 47 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

20 (iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

25 CCCTTGTTT AGGCTAGCTA CAACGATTTT TCCCTGCTTG AATTGTA

47

25 (2) INFORMATION FOR SEQ ID NO:86:

30 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 51 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

CCCTTTGGTT AGGCTAGCTA CAACGATTTC TCCCTGCTTG ACCTGTTACG A

51

## (2) INFORMATION FOR SEQ ID NO:87:

## 5 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 48 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

CCTTTAGTTA GGCTAGCTAC AACGATTTTC CCCTGCTTGG AACGACAC

48

## (2) INFORMATION FOR SEQ ID NO:88:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear25 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO

30 (iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

CATGGCTTAA TCATCCTCAA TAGAAGACTA CAAGTCGAAT ATGTCCCCC

50

35 (2) INFORMATION FOR SEQ ID NO:89:

40 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid

- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

15 CAACAGAGCG AGTATCACCC CCTGTCAATA GTCGTATGAA ACATTGGGCC

50

(2) INFORMATION FOR SEQ ID NO:90:

15 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

30 TACCGACAAG GGGAAATTAAA AGCTAGCTGG TTATGCAACC CTTTTCGCA

49

(2) INFORMATION FOR SEQ ID NO:91:

35 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

CTCGAACACAG TGATATTCTG AACAAACGGG TACTACGTGT TCAGCCCC

49

## (2) INFORMATION FOR SEQ ID NO:92:

5 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

CCAATAACGT AACCCGGTTA GATAAGCACT TAGCTAAGAT GTTTATCCTG

50

## (2) INFORMATION FOR SEQ ID NO:93:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)  
(iii) HYPOTHETICAL: NO  
(iv) ANTI-SENSE: NO

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

CAATACAATC GGTACGAATC CAGAAACATA ACGTTGTTTC AGAATGGTCC

50

## 35 (2) INFORMATION FOR SEQ ID NO:94:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
40 (C) STRANDEDNESS: single

## (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

5 (iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

GCAACAAACAA GAACCAAGTT ACATACACGT TCATCTATAC TGAACCCCCA

50

10

## (2) INFORMATION FOR SEQ ID NO:95:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 base pairs

15

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

25

CCTTTGAGTT CCTAAATGCC GCACGGTAAG CTTGGCACAC TTTGACTGTA

50

## (2) INFORMATION FOR SEQ ID NO:96:

30

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

CAAAGATCTC ACTTTGGAAA TGCAGAAATAT GTATATTCGC CCTGTCTGC

49

## (2) INFORMATION FOR SEQ ID NO:97:

## 5 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

10

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

15

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

CCACGTAGAA TTATCTGATT TATAACATAA CGCAGGATAA CTCTCGCCCA

50

## (2) INFORMATION FOR SEQ ID NO:98:

20

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 48 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

25

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

30

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

CACAAGAAAG TGTCGTCTCC AGATATTTGA GTACAAGGAA CTACGCC

48

## 35 (2) INFORMATION FOR SEQ ID NO:99:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single

40

-139-

## (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- 5 (iv) ANTI-SENSE: NO

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

CATGAAGAAA TAGGACATTC TACAGGCTGG ACCGTTACTA TGCCTGTAGG

50

10

## (2) INFORMATION FOR SEQ ID NO:100:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 46 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - 15 (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)
- 20 (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

25

CATAGGATAA TCATGGCGAT GCTTATGACG TGTACATCTA TACCTT

46

## (2) INFORMATION FOR SEQ ID NO:101:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 50 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - 30 (D) TOPOLOGY: linear

35

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

40

CAGATGATCT TCCTTTAAAG ACTACCCCTT AAAGAAACAT AAGGTACCC

50